

Appln. No. 10/668,541
Docket No. 14XT00219/135960/GEM-0127

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) An X-ray emitter comprising:
an anode;
a cathode;
a vacuum evacuated body in which the anode and the cathode are placed;
an opening in the body; and
a high-voltage connector placed in the opening, the connector closing off the opening in a vacuum-tight manner, the high-voltage connector connected to the cathode and configured to connect to a high-voltage generator;
wherein the connector is subjected to a vacuum on the side of the cathode and to ambient air on the opposite side; and
wherein the outside of the vacuum evacuated body is subjected to atmospheric pressure and ambient air.
2. (original) The emitter according to claim 1 wherein the cathode is supported by the connector.
3. (original) The emitter according to claim 2 wherein the cathode is supported by the connector by means of an intermediate spacer.
4. (original) The emitter according to claim 1 wherein the body is made of metal.

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5. (original) The emitter according to claim 2 wherein the body is made of metal.
6. (original) The emitter according to claim 3 wherein the body is made of metal.
7. (original) The emitter according to claim 1 wherein the body comprises a material having an atomic number less than 82.
8. (original) The emitter according to claim 2 wherein the body comprises a material having an atomic number less than 82.
9. (original) The emitter according to claim 3 wherein the body comprises a material having an atomic number less than 82.
10. (original) The emitter according to claim 4 wherein the body comprises a material having an atomic number less than 82.
11. (original) The emitter according claim 1 wherein the body comprises a cylindrical portion forming the opening, the connector being placed and fastened into the cylindrical portion.
12. (original) The emitter according claim 2 wherein the body comprises a cylindrical portion forming the opening, the connector being placed and fastened into the cylindrical portion.
13. (original) The emitter according claim 3 wherein the body comprises a cylindrical portion forming the opening, the connector being placed and fastened into the cylindrical portion.

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14. (original) The emitter according claim 4 wherein the body comprises a cylindrical portion forming the opening, the connector being placed and fastened into the cylindrical portion.

15. (original) The emitter according claim 5 wherein the body comprises a cylindrical portion forming the opening, the connector being placed and fastened into the cylindrical portion.

16. (original) The emitter according to claim 1 wherein the connector is made from a ceramic.

17. (original) The emitter according to claim 2 wherein the connector is made from a ceramic.

18. (original) The emitter according to claim 3 wherein the connector is made from a ceramic.

19. (original) The emitter according to claim 4 wherein the connector is made from a ceramic.

20. (original) The emitter according to claim 5 wherein the connector is made from a ceramic.

21. (original) The emitter according to claim 6 wherein the connector is made from a ceramic.

22. (original) The emitter according to claim 1 wherein the connector is made from an electrically insulating oxide.

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23. (original) The emitter according to claim 2 wherein the connector is made from an electrically insulating oxide.

24. (canceled)

25. (original) The emitter according to claim 3 wherein the connector is made from an electrically insulating oxide.

26. (original) The emitter according to claim 4 wherein the connector is made from an electrically insulating oxide.

27. (original) The emitter according to claim 5 wherein the connector is made from an electrically insulating oxide.

28. (original) The emitter according to claim 6 wherein the connector is made from an electrically insulating oxide.

29. (original) The emitter according to claim 7 wherein the connector is made from an electrically insulating oxide.

30. (original) The emitter according to claim 7 wherein the connector comprises aluminum.

31. (original) The emitter according to claim 8 wherein the connector comprises aluminum.

32. (original) The emitter according to claim 9 wherein the connector is aluminum based.

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33. (original) The emitter according to claim 9 wherein the connector is aluminum based.

34. (original) The emitter according to claim 9 wherein the connector is aluminum nitride-based.

35. (original) The emitter according to claim 9 wherein the connector is aluminum nitride-based.

36. (currently amended) An X-ray apparatus comprising:
an X-ray emitter comprising:
an anode;
a cathode;
a vacuum evacuated body in which the anode and the cathode are placed;
an opening in the body; and
a high-voltage connector placed in the opening, the connector closing off the opening in a vacuum-tight manner, the high-voltage connector connected to the cathode and configured to connect to a high-voltage generator;
wherein the connector is subjected to a vacuum on the side of the cathode and to ambient air on the opposite side;
wherein the outside of the vacuum evacuated body is subjected to atmospheric pressure and ambient air; and
means for receiving the X-rays and capable of supplying an output signal representative of an object placed in the path of the X-rays.

37. (original) The apparatus according to claim 36 wherein the connector is made of an insulating oxide.

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38. (currently amended) A method of manufacturing an X-ray emitter comprising:

providing a body capable of being made vacuum-tight;

forming an opening in the body;

placing an anode and a cathode in the body;

placing a high-voltage connector in the body, the high-voltage connector connected to the cathode and configured to connect to a high-voltage generator;

fastening the connector into the opening, the connector closing off the opening in a vacuum-tight manner; and

evacuating the body so that the body is subjected to a vacuum on the side of the cathode and to atmospheric pressure and ambient air on the opposite side.

39. (original) The emitter according to claim 38 wherein the connector is made from an electrically insulating oxide.

40. (previously presented) The emitter of Claim 1, wherein:

the connector has a generally cylindrical external wall that is securely fastened in a vacuum-tight manner to a generally cylindrical portion of the vacuum evacuated body.